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[54] **HIGH RESOLUTION METAL PATTERNING OF ULTRA-THIN FILMS ON SOLID SUBSTRATES**

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[52] **U.S. Cl.** **427/98**; 427/54.1; 427/58

[58] **Field of Search** 427/98, 58, 54.1

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[57] **ABSTRACT**

A process for producing metal plated paths on a solid substrate of the kind which has polar functional groups at its surface utilizes a self-assembling monomolecular film that is chemically adsorbed on the substrate's surface. The solid substrate may, for example, be an insulator of the kind used for substrates in printed circuitry or may, as another example, be a semiconductor of the kind used in semiconductor microcircuitry. The chemical reactivity in regions of the ultra-thin film is altered to produce a desired pattern in the film. A catalytic precursor which adheres only to those regions of the film having enough reactivity to bind the catalyst is applied to the film's surface. The catalyst coated structure is then immersed in an electrolers plating bath where metal plates onto the regions activated by the catalyst.

12 Claims, 1 Drawing Sheet